WHAT IS CLAIMED IS

1.   A method for integrating a wireless terminal into a wireless network, comprising:

determining whether the wireless terminal contains at least one functioning cluster transceiver;

attempting to affiliate the wireless terminal with a cluster head as a cluster member if the wireless terminal contains said at least one functioning cluster transceiver; and

operating the wireless terminal as a cluster head if the wireless terminal does not contain said at least one functioning cluster transceiver.

2.   The method of claim 1, further comprising:

operating the wireless terminal as a cluster member by communicating with an affiliated cluster head if the attempted affiliation is successful.

3.   The method of claim 1, further comprising:

determining whether the wireless terminal contains one or more functioning backbone transceivers if the attempted affiliation is not successful; and

operating the wireless terminal as a cluster head if the wireless terminal contains one or more functioning backbone transceivers.

4.   The method of claim 3, further comprising:

repeating said attempting to affiliate if the wireless terminal does not contain one or

more functioning backbone transceivers.

5.   The method of claim 1, wherein said attempting to affiliate includes:

receiving beacon messages from different cluster heads,

ignoring cluster heads with a signal strength less than a threshold,

returning an unsuccessful affiliation result if all cluster heads are ignored in said

5   ignoring, and

ordering any cluster heads not ignored in said ignoring into a list according to a

predetermined criterion.

6.   The method of claim 5, wherein said attempting to affiliate further includes:

sending an affiliation request to a cluster head at a top of the list,

sending an affiliation confirmation to the cluster head at the top of the list if a response

to the affiliation request is received, and

5   deleting the cluster head at the top of the list if no response to the affiliation request is

received.

7.   The method of claim 2, wherein said operating the wireless terminal as a

cluster member includes:

periodically executing an affiliation check, and

repeating said determining after a delay period if the affiliation check is unsuccessful.

8.   The method of claim 7, wherein said executing an affiliation check

includes:

storing a number of beacon messages from the affiliated cluster head,

ascertaining whether a set fraction of the beacon messages has a signal strength above

a threshold value, and

continuing to operate as a cluster member if a set fraction of the beacon messages has

a signal strength above the threshold value.

9.   The method of claim 1, further comprising:

delaying for a random period before said determining.

10.   A method for configuring a wireless terminal within a wireless network,

comprising:

operating the wireless terminal as a cluster head;

determining whether a cluster defined by operation of the wireless terminal contains

the at least one functioning cluster radio;

repeating said operating if the cluster contains no functioning cluster radios;

ascertaining whether continued operation of the wireless terminal as a cluster head is

necessary if the cluster contains one or more functioning cluster radios; and

attempting to resign as the cluster head if the continued operation of the wireless

10   terminal as a cluster head is not necessary.

11.   The method of claim 10, further comprising:

repeating said operating if the continued operation of the wireless terminal as a cluster

head is necessary.

12.   The method of claim 10, wherein the continued operation of the wireless

terminal as a cluster head is not necessary when the wireless terminal becomes too close to one

or more other cluster heads.

13.   The method of claim 10, wherein said attempting to resign includes:

broadcasting a resignation request to other cluster heads and cluster members

associated with the cluster head,

receiving confirmation messages from the other cluster heads and cluster members

5   associated with the cluster head, and

determining whether confirmation messages have been received from all of the other

cluster heads and cluster members to which the resignation request was broadcast.

14.   The method of claim 13, wherein said attempting to resign further includes:

waiting for a fixed period of time between said broadcasting and said determining.

15.   The method of claim 13, wherein said attempting to resign further includes:

repeating said operating if confirmation messages are not received from all of the other

cluster heads and cluster members, and

determining whether the wireless terminal contains one or more functioning cluster

transceivers if confirmation messages are received from all of the other cluster heads and cluster

members.

16.   The method of claim 15, further comprising:

delaying for a random period before said determining whether the wireless terminal

contains one or more functioning cluster transceivers.

17.   A wireless network, comprising:

a plurality of first wireless terminals configured to operate as cluster heads by

communicating with at least one other cluster head over one or more backbone links, each one of

the plurality of first wireless terminals including one or more backbone transceivers, and

5   at least one second wireless terminal configured to operate as a cluster member by

communicating with an associated cluster head over one or more local links, each one of the at

least one second wireless terminals including one or more cluster transceivers, and

wherein at least one of the first and second wireless terminals includes both a

backbone transceiver and a cluster transceiver.

18.   The wireless network of claim 17, wherein the backbone transceiver is

configured to operate over first distances and in a first frequency range, and

wherein the cluster transceiver is configured to operate over second distances that are

shorter than the first distances and in a second frequency range that is different from the first

5   frequency range.

19.   The wireless network of claim 18, wherein the backbone transceiver

includes a first radio operating in an ultrahigh frequency (UHF) range, and

wherein the cluster transceiver includes a second radio operating at substantially 2.4

GHz.

20.   The wireless network of claim 17, wherein at least one of the first wireless

terminals includes two different types of backbone transceivers.

21.   The wireless network of claim 17, wherein at least one of the first wireless terminals includes two different types of cluster transceivers.

22.   The wireless network of claim 17, wherein at least one of the at least one second wireless terminals includes two different types of cluster transceivers.

23.   The wireless network of claim 17, wherein at least one of the first wireless terminals includes a backbone transceiver and a cluster transceiver.

24.   The wireless network of claim 17, wherein the one or more backbone transceivers includes one or more of the following: a radio operating in an ultrahigh frequency (UHF) range, a laser transceiver, a microwave transceiver, and a code division multiple access (CDMA) radio.

25.   The wireless network of claim 17, wherein the one or more cluster transceivers includes one or more of the following: an acoustic transceiver, an omni-directional optical transceiver, a very high frequency (VHF) transceiver, a code division multiple access (CDMA) radio, an ultra-wideband (UWB) radio, and a time-division multiple access (TDMA) radio.

26.   A wireless network, comprising:

means for providing message transit over a backbone link, including means for

transmitting and receiving messages over the backbone link;

a local link to the message transit providing means;

5   means for accessing the wireless network over the local link including means for

transmitting and receiving the messages over the local link, and

wherein the means for providing message transit over a backbone link further includes

the means for transmitting and receiving the messages over the local link.